

ABSTRACT

The present invention provides for a direct correlation between milk production in livestock animals and the presence of alleles of a gene encoding an adipocyte-specific polypeptide, termed leptin, which gene is hereinafter referred to as *ob*. The invention also provides novel compositions consisting essentially of specific oligonucleotides that are useful as primers to amplify particular regions of the genome during enzymatic nucleic acid amplification, thus providing a rapid, sensitive and specific method for the detection of the *ob*-gene polymorphism which may be present in a specimen. The invention further provides for methods of screening bovine to determine those having predictably more milk productivity and advantageously selecting those livestock for future breeding and management purposes based on the *ob* polymorphisms.